United States Environmental Protection Agency
Criminal Investigation Division
Investigative Activity Report

Case Number
1002-M327

Case Title:
Fortymile: [redacted] Placer Mine Investigation (APMA [redacted]

Reporting Office:
Anchorage, AK, Resident Office

Subject of Report:
Mine Discharge Investigation at the APMA [redacted] Mine (08/19/13)

Activity Date:
August 19, 2013

Reporting Official and Date:
[redacted]
Resident Agent in Charge
25-FEB-2014, Signed by: [redacted]

Approving Official and Date:
[redacted]
Special Agent in Charge
25-FEB-2014, Approved by: [redacted]

SYNOPSIS

On 08/19/13, an open field search on state public lands and turbidity monitoring in United States waters were conducted at the [redacted] placer mine along Poker Creek in Alaska's Fortymile Mining District. Documentation of this site includes photographs and video recordings made by Special Agent [redacted] and audio recordings of field contacts made with mine laborer [redacted] adult son of permittee / operator / claim holder [redacted] interview reports, turbidity monitoring of the discharge and of the receiving stream. [redacted] was not present at the site during these reported investigative activities.

The named Special Agents reviewed and confirmed pertinent portions of this report prior to submission for supervisor approval: [redacted] [redacted] and [redacted]

This sheet is intended as an approval sheet for the attached narrative, including diagram(s), photographs, and footnotes.

DETAILS

See approved attachments.

ATTACHMENT
Yes (42 pages)

Case Title: **Reporting Agent:**
Fortymile: Mine Investigation APMA [redacted] ([redacted]) RAC [redacted]

Attachment to IAR Titled:
Mine Discharge Investigation at the APMA [redacted] [redacted] Mine (08/19/13)

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1.0 Report Synopsis

On 08/19/13, an open field search on state public lands and turbidity monitoring in United States waters were conducted at the [redacted] mine site(s) along Poker Creek in Alaska's Fortymile Mining District. Poker Creek is a tributary to Walker Fork which flows into the Fortymile River, a water of the United States. [redacted] mine site is further referenced by means of **APMA** [redacted] operating under APDES General Permit [redacted] As reported below, an unpermitted discharge into U.S. waters was documented by criminal investigators on this date. Documentation of this site includes photographs and video recordings made by EPA Special Agent [redacted] and audio recordings of field contacts made with mine laborer [redacted] adult son of permittee / operator / claim holder [redacted] interview reports, and turbidity monitoring of the discharge and of the receiving stream. [redacted] was not present at the site during these reported investigative activities.

The named Special Agents reviewed and confirmed pertinent portions of this report prior to submission for supervisor approval: [redacted] [redacted] and [redacted]

2.0 Over Flights Prior To Mine Discharge Investigation

On 08/01/13, an unmarked federally-owned law enforcement aircraft overflew what was later identified to be the [redacted] mechanical placer mine site, APMA [redacted] operating under APDES General Permit [redacted] This aircraft, a Pilatus PC-12, was piloted by BLM Special Agent [redacted] with EPA Special Agent [redacted] serving as a spotter and EPA Special Agent [redacted] serving as photographer. Also aboard the aircraft were ADEC Inv. [redacted] and BLM Special Agent [redacted]

Photograph 1 was taken on 08/01/13 at approximately 2:26PM and depicts two adjacent settling ponds at the mine along Poker Creek. At the time of field investigation on 08/19/13, only the larger of the two ponds remained. It was this larger settling pond that was found to be discharging on 08/19/13. **Photograph 2** was taken on 08/01/13 at approximately 2:28PM and depicts the [redacted] mine camp, located approximately one-half mile downstream from the settling ponds. The audio-recorded field contacts of mine laborer [redacted] on 08/19/13 occurred at the mine camp.

Photo 1: Settling ponds on 08/01/13

Photo 2: [redacted] mine camp on 08/01/13

3.0 Mine Discharge Investigation on August 19, 2013

On 08/19/13 at approximately 4:15PM, while investigating turbidity issues along the Walker Fork drainage, investigators traveling by means of ATVs encountered a settling pond discharging turbid water into Poker Creek, a tributary of Walker Fork which flows into the Fortymile River. Also encountered was mine laborer [redacted] adult son of mine operator / permittee / claim holder [redacted] was not present at the mine. Laborer [redacted] was encountered outdoors at the [redacted] mine camp and contacted prior to the discovery by investigators of the mine's discharging settling pond. During this initial contact, investigators including Special Agent [redacted] identified themselves as law enforcement personnel and explained that they were investigating possible turbid discharges into creeks. In addition, investigators wore visible law enforcement clothing identifying themselves as Federal Agents and Police. This initial contact of [redacted] was not audio-recorded. After discovery of the mine's discharging settling pond, [redacted] was contacted twice more by law enforcement, these subsequent contacts were audio recorded by ADEC Investigator [redacted] See the separate Investigative Activity Report (IAR) documenting the audio-recorded contacts of [redacted] Following the initial contact of [redacted] investigators traveled on ATVs

[1] Superimposed cardinal points for photographs are approximated for reference purposes.

upstream of the mine camp along Poker Creek, by way unimproved dirt and gravel trail.

3.1 Discovery of Point Source Discharge into Poker Creek

On 08/19/13 at approximately 4:25PM and approximately one-half mile upstream and east from the [redacted] camp, EPA Special Agents [redacted] and [redacted] encountered a channel of visibly turbid water discharging into Poker Creek from the trail. The turbid discharge channel was followed approximately 230 yards along the trail (upstream) and to the east where the source of turbidity was found to be turbid water seeping from the berm of a settling pond.[2] Channels of clear drainage water were also observed along the trail, contributing volume to the channel of already turbid water discharging from the settling pond. Photograph 12, Photograph 13, and video recording DSCN2147[3] depict the contribution of clear drainage water to the already turbid discharge channel seeping from the settling pond.

Photograph 3 was taken on 08/19/13 at approximately 5:35PM and depicts the turbid settling pond. The picture was taken facing downstream. A portion of the trail where the discharge channel eventually flowed into the creek is partially visible.

Photograph 4 was taken on 08/19/13 at approximately 5:37PM and depicts another perspective of the settling pond. A portion of Poker Creek is visible adjacent to the settling pond, seperated by a berm and trail.

Photo 3: Turbid settling pond.

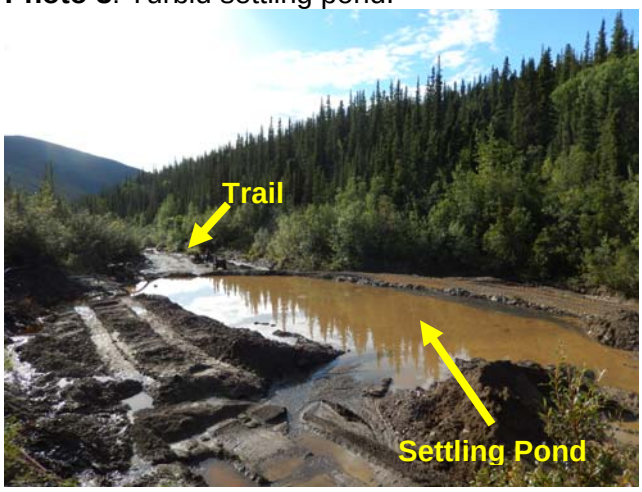
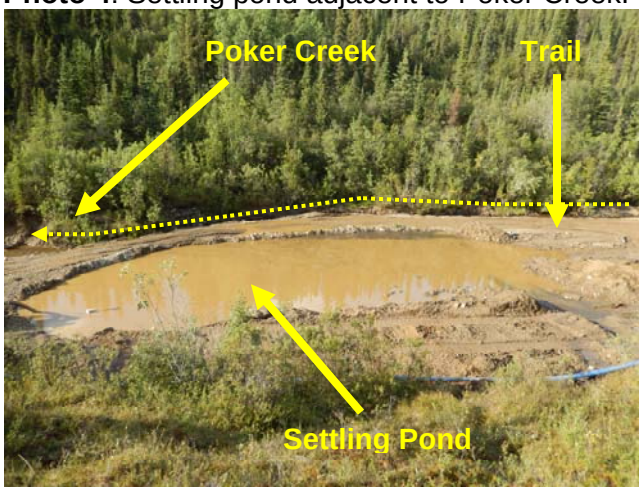


Photo 4: Settling pond adjacent to Poker Creek.



[2] The State of Alaska's Annual Placer Mining Application (APMA), Block 26, includes the following language relative to seepage: "Underground flow or seepage through a dam or berm; will be considered a discharge if the water quality in the stream is affected as it flows past your mining operation."
[3] Video recording DSCN2147 was made by Special Agent [redacted] on 08/19/13 at approximately 4:38PM and is retained by EPA-CID. The video is not included with this report.

4.0 Sample Collection

Because a visibly turbid discharge into Poker Creek was observed by investigators on 08/19/13, turbidity monitoring was conducted pursuant to a Quality Assurance Project Plan (QAPP) and performed by Special Agent [redacted] who donned nitrile gloves before filling uniquely identified sample cells at the surface water level, with the mouth of each sample cell facing in an upstream direction. Each sample cell was filled three times with water from the designated sampling station before filling the sample cell for analysis purposes. The triple-rinse of each sample cell and the collection of the monitoring sample were conducted in a manner that did not create visible turbidity at the sample station. Following collection of each sample in a uniquely identified sample cell, the sample was secured into a compartmentalized clear plastic container and controlled by Special Agent [redacted] until analysis using a calibrated Hach™ 2100Q portable turbidimeter.

Field notations and a sketch of sample locations were made contemporaneously by Special Agent [redacted] Photographs and video recordings related to sample locations were made by Special Agent [redacted] using a Nikon Coolpix S9500 camera. Approximate decimal coordinates for sample locations were marked using a Garmin Montana® 650 GPS unit.

4.1 Sample Station D (Seepage from Settling Pond Berm)

On 08/19/13 at approximately 4:43PM, Special Agent [redacted] observed, photographed, and video recorded[4] turbid flow seeping from multiple locations along the western (downstream) earthen berm of the settling pond. In addition, the soils of this above-grade earthen berm appeared to be saturated. In some locations along the berm, the seepage was visible as flowing turbid water which pooled on the ground before flowing into channel(s) on the trail.

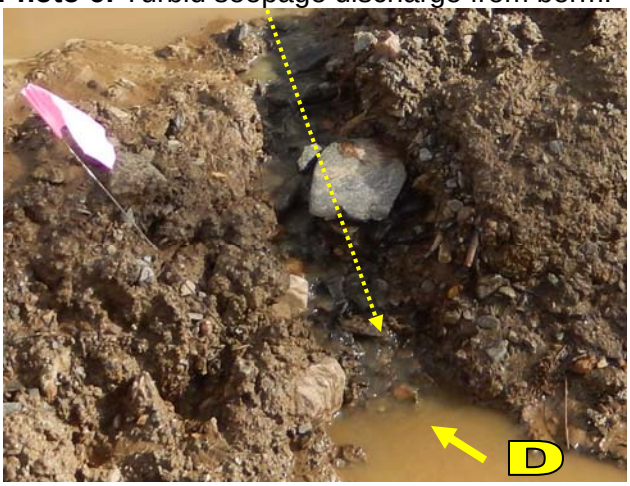
On 08/19/13 at approximately 4:42PM, Special Agent [redacted] collected a sample of seepage from a small pool of turbid water which was observed accumulating flow from the settling pond's berm. The accumulated seepage then formed into channels and flowed along the trail until reaching the creek. The location of this sample was designated as **Sample Station D**.[5] As reported in Section 5 of this report, discharge **Sample D** resulted in a reading of **greater than 1000 NTUs**.

Photograph 5 was taken on 08/19/13 at approximately 4:43 PM and depicts the source location for the collection of seepage from **Sample Station D**. **Photograph 6** is a closer perspective of the previous photo and depicts turbid seepage discharging from the settling pond's berm. The pink flag was placed by Special Agent [redacted] for identification purposes.

[4] See video recording DSCN2153 made by Special Agent [redacted] on 08/19/13 at approximately 4:45PM.
[5] Approximate coordinates for Sample Station D were marked as [redacted]°.

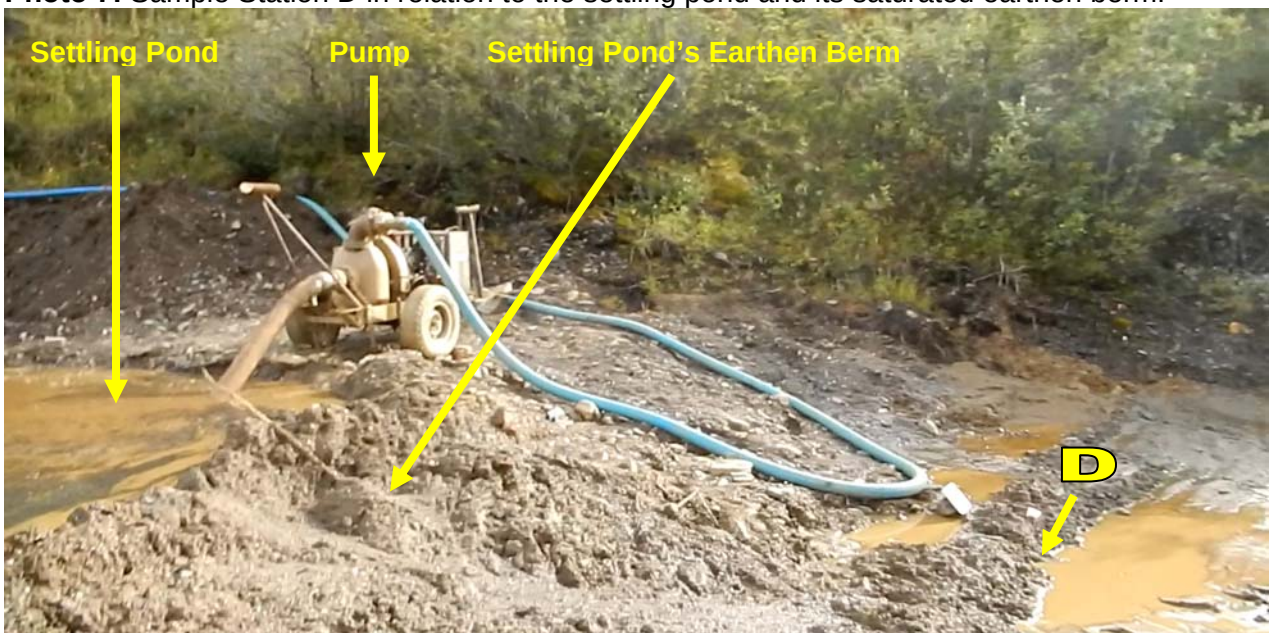
Photo 5: Sample Station D outside of berm.

Photo 6: Turbid seepage discharge from berm.



Photograph 7 represents a frame from video recording DSCN2153 taken on 08/19/13 at approximately 4:45PM. This photograph depicts the location of Sample Station D in relation to the settling pond and its (downstream) berm. The pump depicted in the picture is discussed in more detail in Section 6 of this report.

Photo 7: Sample Station D in relation to the settling pond and its saturated earthen berm.



4.2 Sample Station C (Discharge Channel along Trail)

The turbid seepage from the settling pond was observed forming into channels and flowing along the trail until reaching the creek. As the channel left the trail, it flowed through **Sample Station C** where it was sampled immediately before entering Poker Creek on 08/19/13 at approximately 4:36PM. As reported in Section 5 of this report, channel **Sample C** resulted in a reading of **434 NTUs**.[6]

Photograph 8 was taken on 08/19/13 at approximately 5:38PM and depicts channelized turbid water flowing downstream from Sample Station D, discussed in Section 4.1. The ATV's in the picture belong to investigators.

Photograph 9 represents a frame from video recording DSCN2153 taken on 08/19/13 at approximately 4:45PM. This photograph depicts another perspective of channelized turbid water flowing downstream towards Poker Creek.

Photo 8: Turbid flow from Sample Station D.

Photo 9: Channelized turbid flow towards creek.

Photograph 10 was taken on 08/19/13 at approximately 4:40PM and depicts channelized turbid water flowing towards the creek. Visible in the background is a portion of the mine's washplant, which is adjacent to the settling pond. Poker Creek is seen flowing parallel to the discharge channel(s) at this point along the trail.

Photograph 11 was taken on 08/19/13 at approximately 4:37 and depicts the channel as it begins to enter Poker Creek through Sample Station C.

[6] Approximate coordinates for Sample Station C were not recorded.

Photo 10: Discharge channel parallel to creek.

Photo 11: Channel flow thru Sample Station C

Photograph 12 and **Photograph 13** were taken on 08/19/13 at approximately 4:37PM and depict a channelized turbid discharge as it flowed through **Sample Station C** and into Poker Creek. The turbidity reading at this station was **434 NTUs**. As discussed in Section 3.1 of this report, clear naturally-occurring drainage water can be seen mixing with the volume of turbid discharge water. The clear drainage water appeared to be flowing through Sample Station C from a westerly direction along the trail, which is the opposite direction from where the settling's pond was located.[7]

Photo 12: Discharge channel parallel to creek.

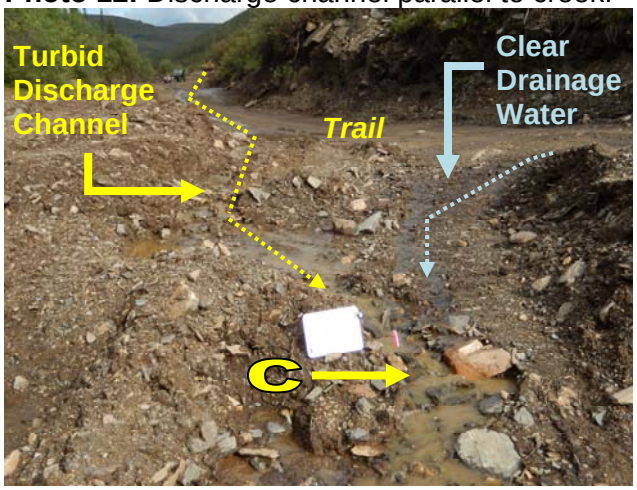
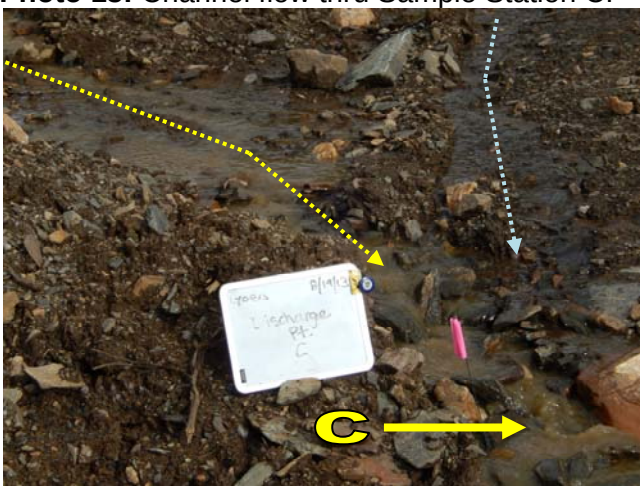


Photo 13: Channel flow thru Sample Station C.



[7] The mixing of turbid discharge water with clear drainage water is apparent in video recording DSCN2147.

4.3 Sample Station B (Discharge in Poker Creek)

On 08/19/13 at approximately 4:26PM, Special Agent [redacted] collected a sample of the discharge as it mixed with the creek. As reported in Section 5 of this report, **Sample B** resulted in a turbidity reading of **136 NTUs**.[8]

Photograph 14 was taken on 08/19/13 at approximately 4:31PM and depicts the location of discharge Sample Station B in relation to Sample Station A.

Photograph 15 was taken on 08/19/13 at approximately 4:30PM and depicts a closer perspective of Sample Station B, where the discharge mixes into Poker Creek.

Photo 14: Sample Station B relative location.

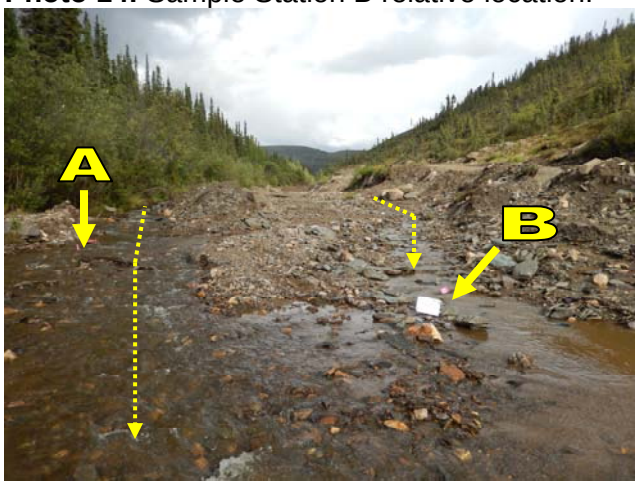


Photo 15: Sample Station B in the creek.

[8] Sample Station B was marked a few yards south of approximate coordinates N 64.05566° / W 141.02086°.

4.4 Sample Station A (Upstream of Sampled Discharge Channel)

On 08/19/13 at approximately 4:25PM, Special Agent [redacted] collected a sample of creek water from Poker Creek, slightly upstream of Sample Station B and downstream of the settling pond. As reported in Section 5 of this report, **Sample A** resulted in a turbidity reading of **12.3 NTUs**.[9]

Photograph 16 was taken on 08/19/13 at approximately 4:31PM and depicts the location of discharge Sample Station A in relation to Sample Station B.

Photograph 17 was taken on 08/19/13 at approximately 4:28PM and depicts the location of Sample Station A in Poker Creek, downstream from the settling pond.

Photo 16: Sample Station A relative location.

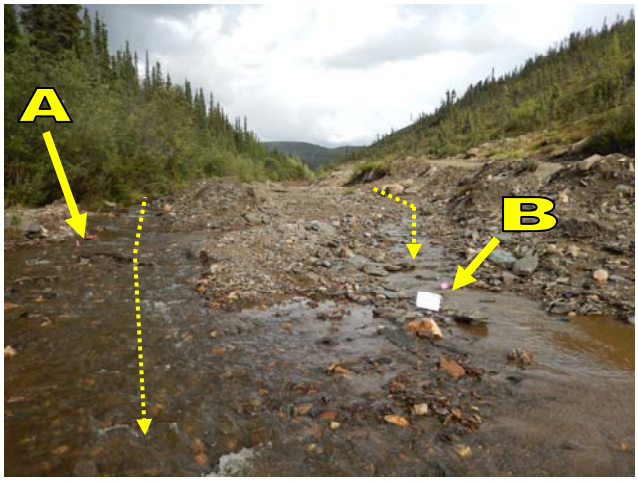


Photo 17: Sample Station A in the creek.

[9] Sample Station A was marked a few yards north of approximate coordinates N 64.05566° / W 141.02086°.

4.5 Sample Station E/F (Natural Background Turbidity Conditions)

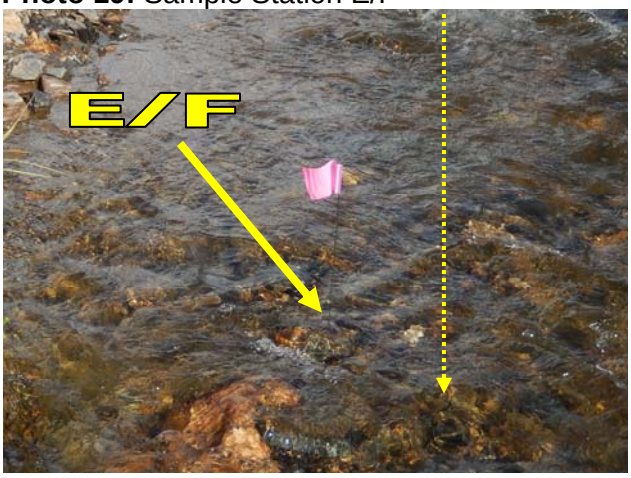
Because a channelized point source discharge was observed and monitored at this mine site, it was necessary to measure naturally occurring background turbidity conditions in the receiving stream to determine whether a possible violation of this placer mine's General Permit existed.[10]

On 08/19/13 at approximately 4:52 PM, background turbidity was measured at **Sample Station E/F**, located approximately 150 yards upstream of Sample Station D and upstream of the mine's washplant and discharge channels into Poker Creek. As reported in Section 5 of this report, replicate **Sample E** resulted in a reading of **3.51 NTUs** and replicate **Sample F** resulted in a reading of **2.33 NTUs**.[11]

Photograph 18 and **Photograph 19** were taken on 08/19/13 at approximately 4:53PM and depict the location from where replicate Sample E and replicate Sample F were collected.

Photo 18: Sample Station E/F

Photo 19: Sample Station E/F



[10] The APDES General Permit places **Limitations & Monitoring Requirements** for turbidity discharges at an instantaneous maximum of no more than "5 NTUs above natural conditions." APDES General Permit [redacted]

[11] Approximate coordinates for Sample Station E/F were marked as [redacted]°.

5.0 Sample Analysis

Samples were analyzed in the field for turbidity[12] by Special Agent [redacted] using a Hach™ 2100Q portable turbidimeter, compliant with USEPA Method 180.1 design criteria. This method measures turbidity in nephelometric turbidity units (NTU) through comparison of the intensity of light scattered by the sample against a standard reference suspension.[13] The 2100Q uses a tungsten filament lamp source with a silicone photodiode detector which is designed to measure turbidity from 0 to 1000 NTU without dilution of the sample.[14]

On 08/19/13 between approximately 5:09PM and 5:13PM, Special Agent [redacted] assisted by Special Agents [redacted] and [redacted] analyzed the collected samples using a Hach 2100Q portable turbidimeter S/N 11080C011116, which was successfully calibrated on the morning of 08/19/13 at 7:20AM. Prior to sample analysis, a successful instrument performance check was performed onsite on 08/19/13 at 5:02PM. See attached data log confirming calibration and instrument performance check(s). Sample analysis results were recorded in the instrument's data logger and noted in the field. See attached data log providing analysis results.

Consistent with the Quality Assurance Project Plan (QAPP) and because of holding time limitations for the analysis of turbidity samples, sample cell contents were discarded in the field after analysis following a successful post-analysis instrument performance check conducted for quality control purposes.

Table 1 on the following page provides a summary of the sample analysis results together with a description of the corresponding sample station's location.

Graphic 1 below is provided for reference and depicts the relative location of sample stations to the point of discharge into Poker Creek. The graphic is not drawn to scale.

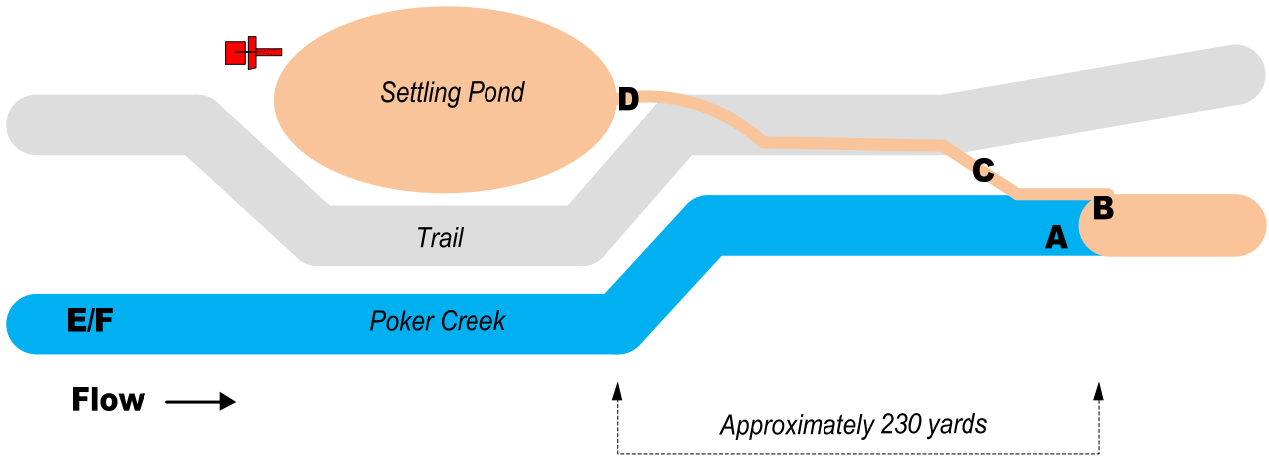
[12] Turbidity can be defined as the cloudiness or haziness of a fluid caused by suspended solids. In addition, discussion in the Mechanical Placer Mine Fact Sheet for General Permit [redacted] references U.S. EPA's Alaska Placer Mining Metals Studies conducted in 1998 and 1999 and notes that EPA recognizes turbidity can be used as a surrogate for metal levels in the effluent of placer mines. Mechanical Placer Fact Sheet for General Permit [redacted] (pg. 19), http://dec.alaska.gov/Water/WPSdocs/[redacted]docs.pdf.
[13] Method 180.1, Determination of Turbidity by Nephelometry, Revision 2.0, August 1993.
[14] Hach 2100Q User Manual, Edition 1, January 2010.

Table 1: Turbidity Analysis Summary*

Station	Sample Description	(NTUs)
A	Sample in creek upstream of discharge channel *(Creek)*	12.3
B	Sample of discharge in creek *(Creek)*	136
C	Sample of discharge channel *(Trail / Point Source)*	434
D	Sample of seepage from berm *(Berm/Trail)*	>1000**
E/F	Background sample *(Creek)*	3.51
E/F	Background sample *(Creek)*	2.33

* See attached data log.
** The instrument is designed to measure turbidity between 0-1000 NTUs.

Graphic 1: Sample Stations



6.0 Washplants and Washplant Beneficiation Water

Located on the eastern bank of the settling pond was a washplant and excavator. The washplant was not operating when investigators arrived and did not operate while investigators were present. Located on the western bank of the settling pond was a wheeled water pump with a tan-colored hose placed into the settling pond. Leading from the pump toward the washplant was a long blue-colored hose. Based on this configuration, it appeared to Special Agent [redacted] that the pump was configured to recirculate water from the settling pond for the washplant's beneficiation process.

Photograph 20 was taken on 08/19/13 at approximately 5:38PM and depicts the beneficiation water pump apparently configured to recirculate water from the settling pond to the washplant. **Photograph 21** was taken on 08/19/13 at approximately 5:35PM and depicts the washplant. **Photograph 22** represents a frame from video recording DSCN2153 taken on 08/19/13 at approximately 4:45PM and depicts the surface of the settling pond, the pump, and the washplant.

Photo 20: Beneficiation pump.

Photo 21: Washplant

Photo 22: Settling pond, beneficiation pump, and washplant.

7.0 Submission of Apparent False Annual Report(s)

7.1 Mining Season 2013

On 02/10/14, ADEC Environmental Program Specialist [redacted] forwarded to EPA Special Agent [redacted] by means of email the permit-required Annual Report submitted by [redacted] for his **APMA** [redacted] mechanical placer mine permitted under General Permit [redacted] A date stamp placed by ADEC on this one-page report indicates that it was received by ADEC on 01/07/14. The report indicates that it was prepared by [redacted] with [his] signature dated 01/06/14. The preparation and submission dates for this Annual Report appear to have occurred after the required deadline for submission.[16]

The attached Annual Report for the 2013 mining season certifies[17] that mining occurred at [redacted] mine; however, the report claims that No Discharge occurred at the mine. This Annual Report's certification of No Discharge for the 2013 mining season appears to be inconsistent with the observations documented by this Investigative Activity Report (IAR), the statements made by mine laborer [redacted] to law enforcement on 08/19/13, and the advisements and admonishment made to mine laborer [redacted] by Special Agent [redacted] on 08/19/13. See the IAR titled, "Audio Recorded Contacts of [redacted] (08/19/13)."

7.2 Mining Season 2012

On 02/10/14, ADEC Environmental Program Specialist [redacted] forwarded to EPA Special Agent [redacted] by means of email the permit-required Annual Report / Discharge Monitoring Report (DMR) submitted by [redacted] The transmittal

[15] The materiality of an Annual Report is expressed in the permit's **Signature Requirements and Penalties** section which reads, "Any application, report, or information submitted to the Department in compliance with a permit requirement must be signed and certified in accordance with 18 AAC 83.385. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under a permit, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be subject to penalties under 33 U.S.C. 1319(c)(4), AS 12.55.035(c)(1)(B), (c)(2) and (c)(3), and AS 46.03.790(g).

[16] The General Permit provides specific **Recording and Reporting Requirements** which require the permittee to submit a signed and certified Annual Report to ADEC no later than January 31 for the previous calendar year. APDES General Permit AKG37000, Sec. 4.2.

[17] A certification above the signature block for the Annual Report includes the following language: "**Certification**: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

email titled, "[redacted] 2012" included attachment "[redacted] JAN-DEC 2012.pdf," denoting [redacted] General Permit [redacted] A date stamp placed by ADEC on this one-page DMR indicates that it was received by ADEC on 12/20/12. The DMR indicates that it was prepared by [redacted] with [his] signature dated 12/15/12.

The attached DMR for the 2012 time period between 01/01/12 and 12/31/12 certifies that No Discharge occurred at the mine. This DMR's certification of No Discharge for the 2012 mining season appears to be inconsistent with statements made by mine laborer [redacted] to law enforcement on 08/19/13[18] and inconsistent with observations made by U.S. Army Corps of Engineer (USACOE) and Alaska Department of Natural (DNR) personnel during a visit to [redacted] mine on 08/10/12.[19]

With respect to the 2012 DMR's certification of No Discharge being inconsistent with [redacted] statements to law enforcement on 08/19/13, [redacted] statements indicated that a discharge at the mine did occur during 2012. Near the 6:20 minute mark of [redacted] audio-recorded exit contact, [redacted] responded to a question concerning how the mine monitors its discharges by saying:

"You know, just keeping it up making sure it doesn't leak. You know, I don't know, the gal was here last year and he had a pond down there and, we had to, had a little bit of discharge, and we was about done what we were doing." [Emphasis added].

Prior to the Mine Discharge Investigation on 08/19/13 documented by this IAR, information was provided to EPA's Criminal Investigation Division by U.S. Army Corps of Engineers Project Manager [redacted] concerning [redacted] placer mine along Poker Creek, APMA [redacted] This prior information provided by Project Manager [redacted] indicated that she visited [redacted] APMA [redacted] mine on 08/10/12 and observed settling ponds and "dirty water" running down the right limit. [redacted] above-cited comment about a **"gal"** being present during the mine's *"little bit of a discharge"* taken together with other audio-recorded comments made by [redacted] concerning a **"gal"** who usually inspects the mine caused Special Agent [redacted] to again contact female [inspector] [redacted] about her 08/10/12 visit to the mine.

On 02/11/14, [redacted] telephonically confirmed to Special Agent [redacted] that during her 08/10/12 visit to [redacted] mine, she and Alaska DNR [Inspector] [redacted] observed a "dirty water" seepage discharge from [redacted] settling ponds into the creek. [Inspector] [redacted] advised that although a memorandum had not been prepared concerning these observations at the time, photographs were made during the visit and that she could

[18] For statements made by [redacted] on 08/19/13, see the IAR titled, "Audio Recorded Contacts of [redacted] (08/19/13), Attachment 2 ([redacted] Exit Contact). The review notes for the 6:00 minute mark of this contact indicate that an apparent discharge occurred in 2012.

[19] See Attachment 6 to this IAR, which includes a USACOE Memorandum for the Record (MFR) and color photos of a joint federal/state visit to the [redacted] mine on 08/10/12.

prepare a memorandum to memorialize her observations during the visit.

On 02/13/14, [redacted] emailed to Special Agent [redacted] a Memorandum for the Record (MFR) containing a narrative account of her visit to [redacted] mine on 08/10/12. Also included were annotated color photographs of her visit. [Inspector] [redacted] memorandum included that [DNR Inspector] [redacted] advised "[redacted] that the inspectors had observed "seepage coming from the lowest settling pond into Walker Fork" and that it was a "DEC matter" and that "he needed to be in compliance with the rules on discharge." See Attachment 6 to this IAR which includes [Inspector] [redacted] email and referenced attachments.

8.0 Attachments

1. Field sketch & notes (2 pages).
2. Data log spreadsheet (1 page).
3. Daily instrument calibration (1 page).
4. Annual Report for the 2013 mining season (1 page).
5. Annual Report / DMR for the 2012 mining season (1 page).
6. Email from USACOE Project Manager with attached memo & photos of 08/10/12 visit to [redacted] mine, APMA [redacted] (12 pages).

9.0 Glossary of Terms

Terms used in this Investigative Activity Report (IAR) have specific definitions under the meaning of the APDES General Permit [redacted] and appear in Appendix C of the permit, unless otherwise noted below.

APMA*	Annual Placer Mining Application (APMA) is an application submitted to the Alaska Department of Natural Resources (DNR) intended to assist miners with the multi-jurisdictional permitting process required for mining and reclamation. If the applicant indicates, the APMA can serve as a Notice of Intent (NOI) for the issuance of an APDES Permit.
APDES	Alaska Pollutant Discharge Elimination System (APDES) is the State of Alaska's program, approved by EPA under 33 U.S.C. 1342(b), for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under 33 U.S.C. 1317, 1328, 1342, and 1345.
Best Management Practices (BMPs)	Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, waste disposal, or drainage from mined areas.
Discharge	When used without qualification, means the discharge of a pollutant.
Drainage Water	Incidental surface waters from diverse sources such as rainfall, snow melt or permafrost melt.
Effluent	The segment of a wastewater stream that follows the final step in a treatment process and precedes discharge of the wastewater stream to the receiving environment.
Instantaneous Maximum	The maximum value measured at any time.
Make-up Water	That volume of water needed to replace process water lost due to evaporation and seepage in order to maintain the quantity necessary for the operation of the beneficiation process.
Nephelometric Turbidity Unit (NTU)	An expression of the optical property that causes light to be scattered and absorbed rather than transmitted in a straight line through the water.

Permittee	A company, organization, association, entity, or person who is issued a wastewater permit and is responsible for ensuring compliance, monitoring, and reporting as required by the permit.
Placer Mining*	Involves the mining and extraction of gold ore or other heavy metals and minerals primarily from alluvial deposits. These deposits may be in existing stream beds or ancient, often buried stream deposits. Essential components of placer mining include overburden removal, mining of the gold placer gravels, and processing (gold recovery).
Plant Site	The area occupied by the mine, necessary haulage ways from the mine to the beneficiation process, the beneficiation area, the area occupied by the wastewater treatment storage facilities and the storage areas for waste materials and solids removed from the wastewaters during treatment.
Point Source*	Point source (33 U.S.C. § 1362(14)) – means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants may be discharged.
Receiving Waterbody	Waters such as lakes, rivers, streams, creeks, wetlands, or any other surface waters that receive wastewater discharges.
Sample Station*	The location from which a sample was collected.
Settling Pond*	Is a pond constructed to remove sediment and solids from water through gravity separation and retention time. The Mechanical Placer Fact Sheet for [redacted] Sec. 4.2.1. states that "Properly designed and operated settling ponds have been determined to be the best available technology used to treat wastewater and reduce pollution prior to discharge for the facilities authorized to discharge under this GP."
Sluice Box*	A sluice box is a device used for gravity concentration of mined metals, such as gold. Sluice boxes are commonly equipped with a trough and riffles to capture the gold which settles into the riffles, while allowing lighter materials such as soils and gravels to be washed through the box by flowing water.
Turbidity*	Turbidity can be defined as the cloudiness or haziness of a fluid caused by suspended solids.
Washplant*	The processes and equipment, including classifiers, sluices and flowing water, used to separate gold from soils, gravels, and ore for beneficiation.

***** Term used in this IAR without specific definition in the [redacted] General Permit.

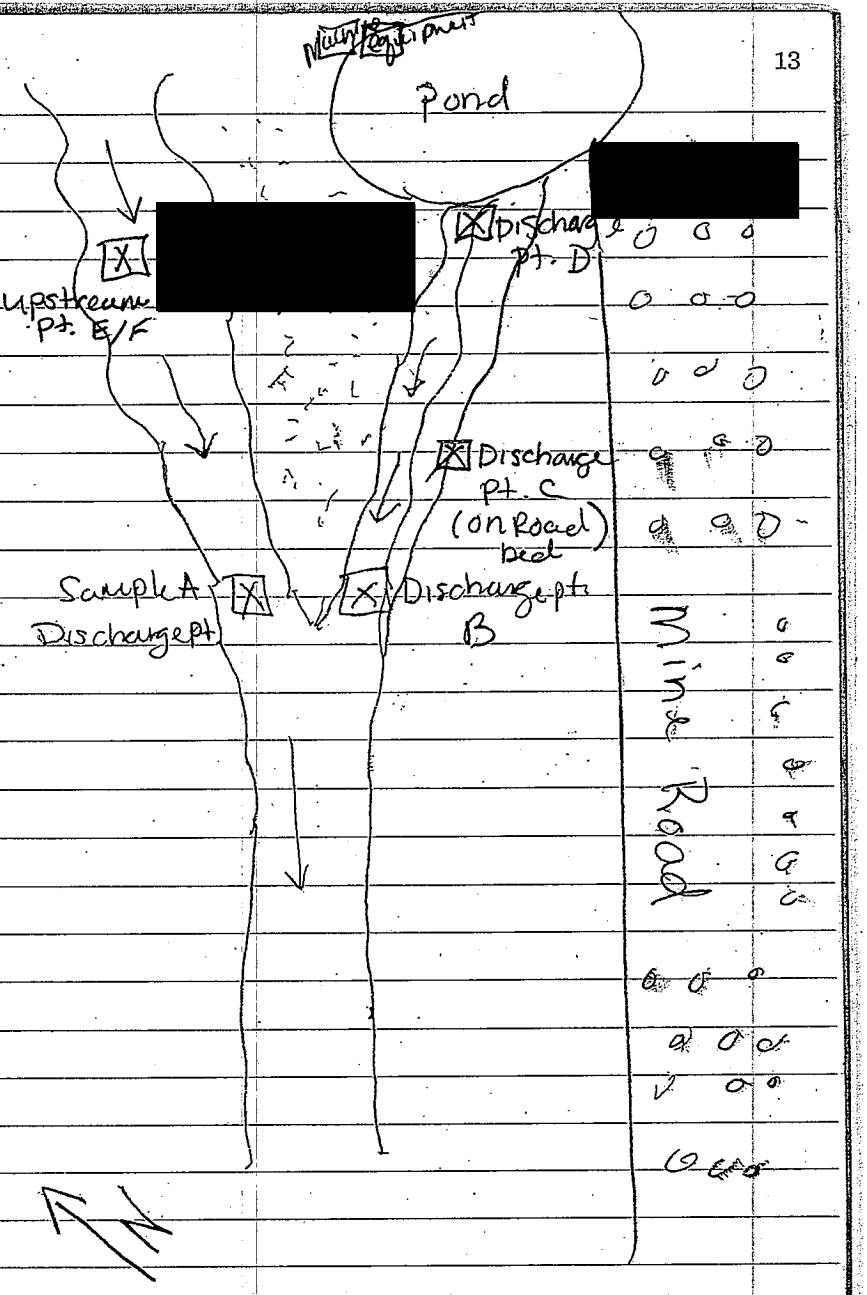
ATTACHMENT DIVIDER

1

Alaska Mine Site
8/19/13 4:25pm
Site Coordinates
[redacted]

Discharge pt. "D" Coordinates
[redacted]

upstream pt. E/F coordinates
[redacted]



Sketch by [redacted] 8/19/13

Alaska Mine Site 002
8/19/13 5:00 pm
Turbidity Data Analysis

Validation = 6.09 (Past) 6.13 NTU

Blank Cell "L" 0.06 NTU baseline / 0.11 NTU (past)
Vial # A 12.3 NTU
VIAL # B 136 NTU
Vial # C 434 NTU
Vial # D Over range I.e over 1,000 NTU
Vial # E 3.51 NTU
Vial # F 2.33 NTU
Validation = 6.09 (Past) 6.11 NTU

Cell "A" = 0.04 baseline / 0.11 NTU (Past)
Cleaned

ATTACHMENT DIVIDER

2

2100Q
S/N: 11080C011116
Software Version: 1.01

Date & Time	Operator ID	Reading Mode	Sample ID	Sample Number	Result	Unit	Notice	Cal.Curve	Cal.Time	Cal.Status	Std. 1 Nom. Value	Std. 1 Act. Value	Std. 2 Nom. Value	Std. 2 Act. Value	Std. 3 Nom. Value	Std. 3 Act. Value	Std. 4 Nom. Value	Std. 4 Act. Value
8/19/2013 17:26	MPG	Normal			0.11	NTU		StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:15	MPG	Cal.Verification			6.11	NTU	Verify Cal: Passed	StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:13	MPG	Normal			2.33	NTU		StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:13	MPG	Normal			3.51	NTU		StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:11	MPG	Normal			++++	NTU	Overrange!	StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:10	MPG	Normal			434	NTU		StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:09	MPG	Normal			136	NTU		StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:09	MPG	Normal			12.3	NTU		StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:06	MPG	Normal			0.11	NTU		StablCal®	8/19/2013 7:18	OK								
8/19/2013 17:02	MPG	Cal.Verification			6.13	NTU	Verify Cal: Passed	StablCal®	8/19/2013 7:18	OK								

ATTACHMENT DIVIDER

3

8/19/13 ~7:05Am

Rm, ~~AIF~~ 2100Q S/N 11080C011116

Cal 10 NTU Lot A3155 exp. Jan 14

Cal 20 NTU Lot A3197 exp. ~~Jan~~ 14 July

Cal 100 NTU Lot A3196 exp. ~~Jan~~ 14 July

Cal 800 NTU Lot A3199 exp. ~~Jan~~ 14 July

~~Operator ID MPG~~

Verified date & time [redacted]

8/20/13

20 NTU → 21.1

100 NTU → 102.0

800 NTU → 849.0

Verify 10 NTU → 9.65 PASSED

Verify BLANK .06 w/ DWB → .04 PASS

Calibrated & OK

Celex 2nd day 6.08 NTU, 6.08 NTU, 6.09 NTU

[redacted] [redacted] ~~8:55 AM~~ [redacted]

[redacted] 7:25Am 8/19/13

ATTACHMENT DIVIDER

4

Department Use Only: WPC

RECEIVED
JAN 7 2014
DEC
Division of Water Quality
Wastewater Discharge Program

SCANNED

[redacted] FBX
200.60.023

Alaska Department of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program

Mechanical Placer Miners General Permit [redacted]
Annual Report Form

Permittee Name: [redacted]	**Mining Season Year:** 2013
	Waterbody Name: Poker Creek
Address: [redacted]	**Authorization #:** [redacted]
	APMA #: F [redacted]
	Mining Occurred: ☒ Yes ☐ No
Email: [redacted]	**Discharge Occurred:** ☐ Yes ☒ No

If mining occurred: Total Sluice Days: 30 Total Acreage Disturbed: ½

Cubic Yards of Material Processed Daily (average): 1,500, Annually 45,000

If discharge occurred, monitoring results are required for flow, total settleable solids, turbidity, and arsenic. Sample results must be attached on a separate sheet. **Monitoring Results Attached:** ☐ Yes ☐ No ☒ N/A

Comments, including explanations of any violations and actions taken to return to compliance:

Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: [redacted]	**Title:** owner
Signature: [redacted]	**Date:** 01-06-14

Note: Reports are due by January 31. A separate Annual Report must be submitted for each permit number. Reports may be submitted by fax, email, or hardcopy to the address below. Permittees must retain legible copies of submitted documents.

Mailing Address: AK Dept. of Environmental Conservation
Division of Water
Attn: Compliance Program
555 Cordova Street
Anchorage, Alaska 99501

Phone: Compliance Program:
Toll Free Nationwide: (877) 569-4114
Anchorage or International: (907) 269-4114
Permitting Program: (907) 451-2142

Fax: (907) 269-4604 **Email:** dec-wqreporting@alaska.gov **Website:** dec.alaska.gov/water/Compliance/permittee.html

ATTACHMENT DIVIDER

5

5

November 27, 2012

Division of Water
Anchorage

[redacted]

DEC 20 2012
RECEIVED

Approved Form.

SCANNED
[redacted] 1/4 FAi
200.60.023

ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM (APDES)
DISCHARGE MONITORING REPORT (DMR)

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME [redacted]

ADDRESS

FACILITY LOCATION: Poker Creek
Boundary AK

[redacted]	
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	2012	01	01	TO	2012	12	31

✓ Check here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
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	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

[redacted]

TYPED OR PRINTED

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

[redacted] ...TIVE
OFFICER OR AUTHORIZED AGENT

TELEPHONE	DATE		
[redacted]	2012	12	15
	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

PAGE OF

ATTACHMENT DIVIDER

6

[redacted]

From: T[redacted]
[redacted] Thursday, February 13, 2014 1:47 PM
To: [redacted]
Subject: POA-APMA [redacted], Poker Creek (UNCLASSIFIED)
Attachments: APMA [redacted], Poker Creek_2012 photos.pdf; POA-1989-37, APMA [redacted] Poker Creek, site inspection.docx

Classification: UNCLASSIFIED
Caveats: NONE

[redacted] Please see attached. [redacted]

[redacted]
Project Manager
Regulatory Division - CEPOA RD
PO Box 6898, 2204 3rd St.
JBER, Alaska 99506

[redacted]

Classification: UNCLASSIFIED
Caveats: NONE

CEPOA-RD-N DATE: 02-11-14

MEMORANDUM FOR THE RECORD (MFR)

SUBJECT: POA-1989-37, APMA [redacted], Poker Creek, site inspection

1. On 11 Feb. 2014 I was contacted by [redacted] an enforcement agent with EPA, regarding a mining site that I had visited on August 10, 2012. He asked me to clarify notes that I had recorded in the Corps mining database regarding my site inspection to [redacted] operation. I stated that I had some photos of the site and that although I had not written up a specific MFR for that site inspection, could reconstruct observations from that day from the photos that were available.

2. The notes in the database are as follows:

   "2012 and 2013 APMAs state there is no stream diversion. On site visit 8/10/12: clean water (the creek diversion) was running down the left limit. DIrty water (a series of 6 or 7 small settling ponds) was running down the right limit, and leaking into Walker Fork. Road in the middle of the valley. Valley is narrow, maybe 75 to 150 feet wide. Mining was occuring on the right limit, side hill cuts. Photos available. "

3. Background: On August 10, 2012 I visited [redacted] mine site, on Poker Creek accompanying Ms. [redacted] who at that time worked for the Alaska Department of Natural Resources, Division of Mining. The specific purpose of our trip was to visit Mr. [redacted] operation, POA- 2009-589, APMA 7497, on Walker Fork, which had an issue with compliance with the Corps GP for placer mining, POA-2006-1944. We arrived at the site in early afternoon, after driving down to Walker Fork from the access road off of the Taylor Highway, near Boundary. The weather was clear.

4. We stopped at [redacted] camp on Walker Fork and spoke with his wife. She stated that [redacted] was working on Mr. [redacted] claims, up on Poker Creek. Poker Creek flows into Walker Fork. We drove up Poker Creek until we saw the mining operation ahead of us. We stopped our vehicle and got out, in view of the operation. [redacted]. [redacted]e drove down from where the equipment was operating and we spoke with him about his operation. We asked if it was ok to look around. He said yes.

5. [redacted] and I walked down Poker Creek to where Poker Creek flows into Walker Fork. and took photos of [redacted] operation. The photos show the stream diversion along the left limit, and some of the small settling ponds along the right limit. The stream diversion was running clear. There was a series of 6 to 7 small settling ponds along the right limit, connected by overflow pipes. There was dirty water flowing into and out of the settling ponds. When we started our inspection, we could hear the equipment running, and water was flowing through the ponds. During the time we were walking down the valley, the equipment shut down and it became quiet. Some of the settling ponds are shown in the photos, however, the shutter on the camera malfunctioned unpredictably and all of the photos did not come out. There is an example of the camera malfunction shown in the photos.

6. Photo 9 shows the lowest settling pond, shortly after the mining equipment shut down. The water that remains in the pond is dirty. The bottom end of the pond consisted of a berm, similar to the one in the photo, of unconsolidated material 3-4 feet high and wide. The berm abutted Walker Fork. In spite of the operation being shut down, there was dirty water seeping out from underneath the berm into Walker Fork.

7. Afterwards we spoke with [redacted] at his camp. [redacted] told [redacted] that we had observed seepage coming from the lowest settling pond into Walker Fork and that he needed to make sure that the pond was not leaking. She stated that this was a DEC matter, but that he needed to be in compliance with the rules on discharge.

[redacted] Project Manager Feb. 13, 2014

N

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
Photo shows [redacted] mining operation. Blue vehicle is where we parked the state of Alaska vehicle, below the operations. The Poker Creek Valley is fairly narrow and steep, ~ 10% grade, valley bottom . Mining is occurring at the toe of slope on both sides of the valley. Creek is diverted to either one side or the other of the valley. In this photo, creek is on the left limit. The road is up the middle of the valley.
Photo 1

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
Photo shows [redacted] mining operation.
Photo 2

N

N

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
Photo shows [redacted] mining operation. This photo is taken below the previous one.
Photo 3

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
This photo is taken from below the blue Suburban, looking down the valley along the stream diversion.
Photo 4

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
This photo is taken from below the blue Suburban, walking down the valley along the stream diversion. On a number of photos from this site visit, the shutter got stuck.
Photo 5

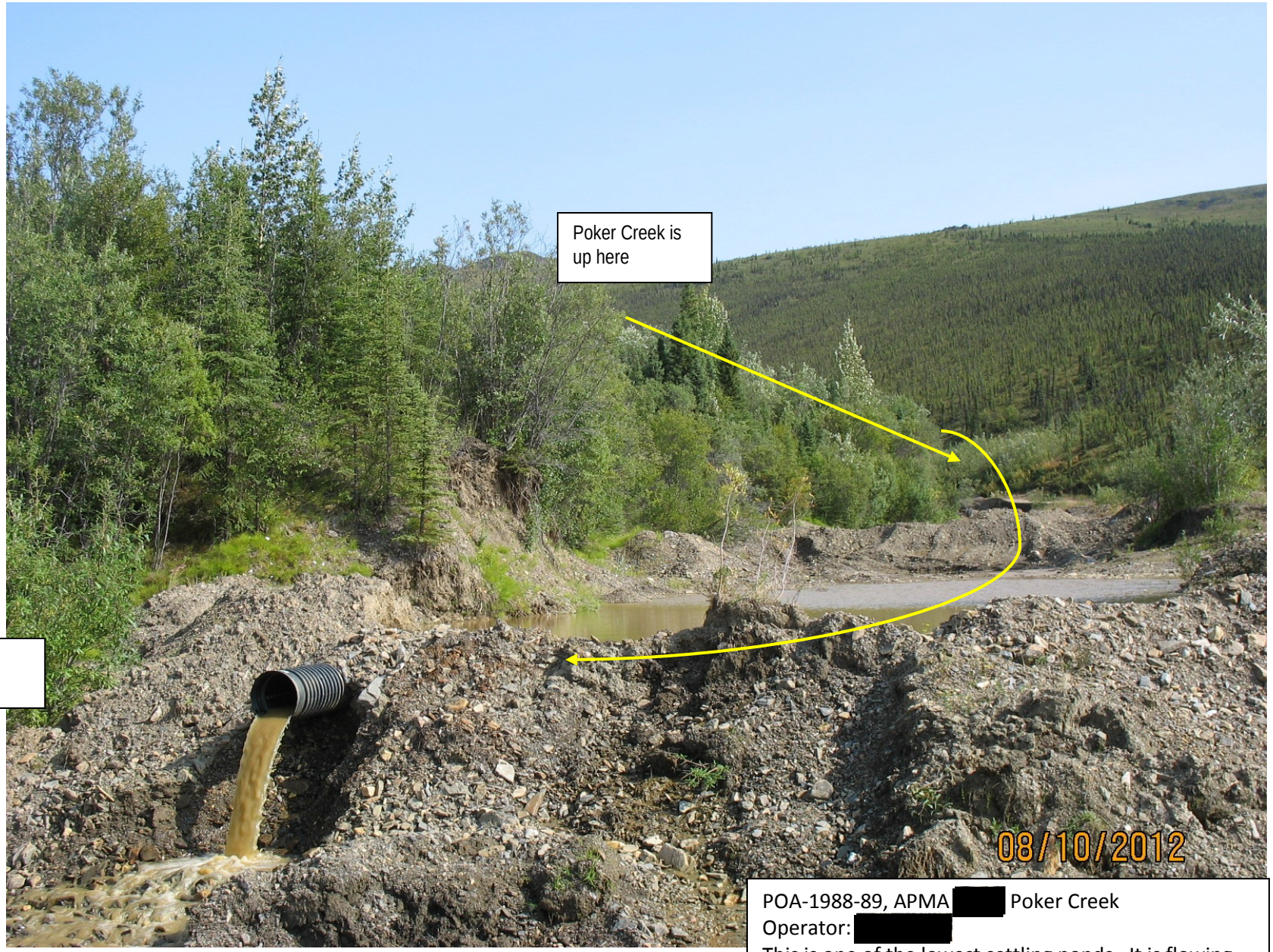
right limit
settling pond

Poker Creek
left limit
diversion

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
Photo of settling pond on right limit, below mining operation. Water is running.
Photo 6

right limit
settling pond

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
Photo of another settling pond on right limit, below previous settling pond and mining operation. Water is running.
Photo 7



POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
This is one of the lowest settling ponds. It is flowing from Poker Creek into Walker Fork.
Photo 8

This bottom of the settling pond is around the corner, of these shrubs, down here. This is where Poker Creek flows into Walker Fork.

POA-1988-89, APMA [redacted] Poker Creek
Operator: [redacted]
This is the top of the lowest settling pond. This is shortly after the equipment shut down, as mentioned in the MFR. The water that remains in the pond is dirty. The bottom end of the pond consisted of a berm, similar to the one in the photo, of unconsolidated material 3-4 feet high and wide. The berm abutted Walker Fork. In spite of the operation being shut down, there was dirty water seeping out from underneath the berm into Walker Fork.

Photo 9